

MICHIGAN DEPARTMENT OF LABOR AND ECONOMIC GROWTH

DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY STANDARDS

Filed with the Secretary of State on May 13, 2005

These rules take effect immediately upon filing with the Secretary of State

(By authority conferred on the director of the department of labor and economic growth by sections 16 and 21 of 1974 PA 154, and Executive Reorganization Order Nos. 1996-2 and 2003-18, MCL 408.1016, 408.1021, 445.2001, and 445.2011)

R 408.11807, R 408.11821, R 408.11822, R 408.11855, R 408.11872, and R 408.11873 of the Michigan Administrative Code are amended to read as follows:

PART 18. OVERHEAD AND GANTRY CRANES

R 408.11807 Adoption of standards by reference.

Rule 1807. (1) The standards specified in this rule, except for the standards specified in subrule (2) of this rule, are adopted by reference.

(a) The following ~~American Society of Mechanical Engineers~~ standards, which are available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at web-site: <http://global.ihs.com>, at a cost as of the time of adoption of these amendments, as stated in this subdivision:

(i) American National Standard Institute Standard ANSI/ASME B30.2, for "Overhead and ~~Gantry~~ **Gantry** Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)", 1996 edition. Cost: \$73.00.

(ii) **American National Standard Institute Standard ANSI/ASME B30.2.0, for "Overhead and Gantry Cranes", 1967 edition. Cost: \$40.00.**

(iii) ~~(ii)~~ American ~~National Standards Institute Society of Mechanical Engineers~~ Standard ANSI/ASME B30.17, for "Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist)," 1998 edition. Cost: \$62.00.

These Both standards are also available for inspection at, and purchase from, the Michigan department of **labor and economic growth** ~~Consumer and Industry Services~~, MIOSHA Standards ~~Section Division~~, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909-8143.

(b) "National Electrical Code," 2002 edition, is available from the National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts, 02269-9101, USA; telephone number: 617-770-3000; or via the internet at web-site: www.nfpa.org, at a cost as of the time of adoption of this amendment of \$54.00 and is available for review at the Michigan department of **labor and economic growth**, ~~Consumer and Industry Services~~, MIOSHA Standards

February 25, 2005

Section Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(2) **Up to 5 copies of the** The following Michigan Occupational Safety Standards ~~are available~~ **may be obtained** at no charge from the Michigan department of **labor and economic growth, Consumer and Industry Services,** MIOSHA Standards **Section Division**, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48908-8143 or via the internet at web-site: **www.michigan.gov/mioshastandards: www.cis.state.mi.us/bsr/divisions/std:**
For quantities greater than 5, the cost is 4 cents per page.

- (a) General Industry Safety Standard Part 2. "Floor and Wall Openings, Stairways and Skylights," being R 408.10201 et seq.
- (b) General Industry Safety Standard Part 3. "Fixed Ladders," being R 408.10301 et seq.
- (c) General Industry Safety Standard Part 7. "Guards for Power Transmission," being R 408.10701 et seq.
- (d) General Industry Safety Standard part 33. "Personal Protective Equipment," being R 408.13301 et seq.
- (e) General Industry Safety Standard Part 39. "Design Safety Standards for Electrical Systems," being R 408.13901 et seq.
- (f) General Industry Safety Standard Part 40. "Electrical Safety-related Work Practices", being R 408.14001 et seq.
- (g) General Industry Safety Standard Part 49. "Slings," being R 408.14901 et seq.
- (h) General Industry Safety Standard Part 85. "Lockout/Tagout," being R 408.18501 et seq.
- (i) Construction Safety Standard Part 10. "Lifting and Digging Equipment," being R 408.41001 et seq.
- (j) Construction Safety Standard Part 45. "Fall Protection," being R 408.44501 et seq.

CONSTRUCTION, INSTALLATION AND EQUIPMENT

R 408.11821 Certification; modification; guards; adoption of standards by reference.

Rule 1821. (1) A top running or gantry crane consisting of a top running bridge with single or multiple girders and a top running trolley hoist, erected or modified after June 24, 1973 **and before April 9, 2002**, shall be certified by a crane manufacturer or an engineer knowledgeable in crane construction, that the new construction or installation, or modification conforms to the ~~American Society of Mechanical Engineers~~ **American National Standard Institute** Standard **ANSI/ASME B30.2.0** "Overhead and Gantry Cranes," ~~Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist~~ 1996 **1967** edition, which is adopted by reference in R 408.11807.

(2) **A top running or gantry crane consisting of a top running bridge with single or multiple girders and a top running trolley hoist, erected or modified after April 9, 2002, shall be certified by a crane manufacturer or an engineer knowledgeable in crane construction, that the new construction or**

installation, or modification conforms to the American National Standard Institute Standard ANSI/ASME B30.2 "Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)," 1996 edition, which is adopted by reference in R 408.11807.

(3) A top running or gantry crane consisting of a top running bridge with a single girder and an underhung hoist, erected or modified after August 31, 1971 **and before April 9, 2002**, shall be certified by a crane manufacturer or an engineer knowledgeable in crane construction, that the new construction, ~~or~~ installation, or modification conforms to the American ~~National Standard Institute Society of Mechanical Engineers~~ Standard ~~ANSI/ASME B30.2.0 B30.17~~ "Overhead and Gantry Cranes," ~~(Top Running Bridge, Single Girder, Underhung Hoist)~~ **1998** ~~1996~~ edition, which is adopted by reference in R 408.11807.

(4) **A top running or gantry crane consisting of a top running bridge with a single girder and an underhung hoist, erected or modified after April 9, 2002, shall be certified by a crane manufacturer or an engineer knowledgeable in crane construction, that the new construction, installation, or modification conforms to the American National Standard Institute Standard ANSI/ASME B30.17 "Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist)" 1998 edition, which is adopted by reference in R 408.11807.**

(5) ~~(3)~~ Gears, couplings and other means of power transmission, except shafts, where exposed to contact, shall be guarded as prescribed in General Industry Safety Standard Part 7. "Guards for Power Transmission," being R 408.10701 et seq., which is referenced in R 408.11807.

(6) ~~(4)~~ A top running or gantry crane consisting of a top running bridge with single or multiple girders and a top running trolley hoist may be modified or rerated if the modifications and the supporting structure are checked thoroughly by a qualified engineer or the equipment manufacturer and conform to the American ~~National Standard Institute Society of Mechanical Engineers~~ Standard **ANSI/ASME B30.2** "Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)," 1996 edition, which is adopted by reference in R 408.11807.

(7) ~~(5)~~ A top running or gantry crane consisting of a top running bridge with a single girder and an underhung hoist may be modified or rerated if the modifications and the supporting structure are checked thoroughly by a qualified engineer or the equipment manufacturer and conform to the American ~~National Standard Institute Society of Mechanical Engineers~~ Standard **ANSI/ASME B30.17** "Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist)" **1998** ~~1996~~ edition, which is adopted by reference in R 408.11807.

R 408.11822 Marking rated capacity; classifications; clearances.

Rule 1822. (1) The rated capacity of a crane shall be legibly marked on each side of the crane. Markings shall be legible from the ground or floor. Each load block of the hoisting units of the crane shall be legibly marked with its individual rated capacity.

(2) **Each crane designed and manufactured after January 1, 1971 shall have a service class rating as prescribed in "CMAA #70--Specifications for Top Running Bridge and Gantry Type Multiple Girder Electric Overhead**

Traveling Cranes,” 1970 edition, as shown in Appendix B. Additionally the service class rating shall be **legibly marked** indicated on **each** the crane.

(3) Clearance from obstructions shall be a minimum of 3 inches overhead and 2 inches laterally between the crane and any obstruction.

(4) Runways of parallel cranes that do not have an intervening wall or structure shall have adequate clearance between the 2 bridges.

(5) The cab of a crane shall be located to afford a minimum of 3 inches clearance from all fixed structures within its area of possible movement.

R 408.11855 Limitations on use of cranes.

Rule 1855. (1) An employer shall limit the use of a crane to the following persons:

(a) An employee who is trained and is qualified to operate the type of crane to which he or she is assigned.

(b) A learner under the direct supervision of a designated operator.

(c) Designated maintenance personnel while performing their duties.

(2) An employer shall establish and enforce a safe procedure, applicable to authorized employees, for boarding and leaving an overhead cab-operated crane.

(3) An employer shall assure that an unauthorized employee does not enter a crane cab or pulpit.

(4) An employer shall limit the use of a crane to its maximum rated capacity, except during rated load test as prescribed in R 408.11874.

R 408.11872 Frequent and periodic inspections.

Rule 1872. (1) **Inspections shall be made as designated in this subrule and table 3.**

(a) An employer shall establish an inspection schedule based on usage and classification as described in this subrule and Appendix B.

(b) The inspection procedure for cranes in regular service is divided into 2 general classifications based upon the intervals at which inspection should be performed. The intervals in turn are dependent upon the nature of the critical components of the crane and the degree of its exposure to wear, deterioration, or malfunction. The 2 general inspection classifications are designated as frequent and periodic, with respective intervals between inspections as specified in this rule.

(c) Each crane designed and manufactured prior to January 1, 1971 shall be inspected at least monthly. The inspection schedule may be modified based on documented inspection and repair history and a qualified person's recommendations.

(2) Frequent inspection includes examinations by a designated person who makes required records, as follows:

(a) Monthly to quarterly (class C) or at intervals of 100 hours of use, whichever comes first. Frequent inspection includes observations during operation and of items listed in table 3.

(b) A designated person shall determine whether conditions found during the inspection constitute a hazard and whether a more detailed inspection is required.

(3) Periodic inspection includes inspection of the equipment in place by a designated person who makes records as listed in table 3 and as follows:

(a) Annually or at intervals of 500 hours of use, whichever comes first. Periodic inspections include observations during operation and of items listed in table 3.

(b) Conditions of extreme duty cycle, heat, and corrosive or climatic extremes indicate a need for more frequent inspections before use.

(c) Cranes with multiple service classifications shall be inspected in accordance with the highest rated duty classification.

(d) A designated person shall determine whether conditions found during an inspection ~~constitutes~~ **constitute** a hazard and whether disassembly is required for additional inspections.

(4) A crane which is used in infrequent service, that is, which has been idle for a period of 1 month or more, shall be inspected before being placed in service.

R 408.11873 Operational tests.

Rule 1873. (1) Before a new or modified crane is put into operation or if a crane has not been used in the past 12 months, the equipment shall be tested by a designated person to ensure compliance with this part, including all of the following functions:

(a) Hoisting and lowering.

(b) Trolley travel.

(c) Bridge travel.

(d) Travel limiting devices.

(e) Locking, limiting, and indicating devices, if provided.

(2) The trip setting of a hoist limit switch shall be determined with an empty hook traveling in increasing speeds up to the maximum speed. The actuating mechanism of the limit switch shall be located so that it will trip the switch, under all conditions, in time to prevent contact of the hook or hook block with any part of the trolley.

~~(3) Locking, limiting, and indicating devices, if provided.~~

~~(4)~~ When a crane is given a load test, the test load shall be not more than 125% of the rated load. The test reports shall be maintained on a file within the premises where the crane is located.